

WE CLAIM:

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5 1. A method of telecommunication over a wide area packet switched network, the method comprising:

sending from a calling party a called number, corresponding to a called party and including an area code, to a first central office connected to a first telephone system;

10 forwarding the called number from the first central office to a first telephony server connected to the first telephone system and in communication with the wide area packet switched network;

15 identifying a second telephony server, in communication with the wide area packet switched network and serving said called party in a second telephone system, from a routing and administration database by using at least said area code;

20 sending the called number from the first telephony server to the second telephony server via said wide area packet switched network; and

selectively establishing a communication link between the first telephony server and the second telephony server according to a prescribed service level to establish communication between the calling and called parties.

2. The method of claim 1, wherein the identifying step comprises:

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5. The method of claim 1, wherein the identifying step comprises accessing said routing and administration database within said first telephony server to obtain the identity of said second telephony server and the

5 *[Handwritten signature]*  
prescribed service level corresponding to the calling party.

6. The method of claim 1, wherein the identifying step comprises receiving a network address of the second telephony server on the wide area packet switched network.

5 *[Handwritten signature]*  
7. The method of claim 6, wherein the called number sending step comprises sending a first signaling data packet carrying the called number as payload data and the second telephony server network address as a destination address to a router selectively routing data packets within the wide area packet switched network, the router sending the first data packet via a predetermined communication path based on the destination address.

8. The method of claim 7, wherein the called number sending step further comprises:

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generating a session identifier identifying a call attempt between the calling party and the called party;  
and

including the session identifier in said first signaling data packet.

9. The method of claim 8, wherein said selectively establishing step comprises:

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12. The method of claim 9, further comprising:  
sensing at the first central office a condition of  
the calling party;

5 sending to the first telephony server a message  
indicating the sensed condition of the calling party;

suspending the transmission of said third data  
packets by said first telephony server in response to the  
message; and

10 transmitting from the first telephony server to the  
second telephony server a third signaling data packet  
including the session identifier and the condition of the  
calling party.

13. The method of claim 1, further comprising:

5 receiving at the first telephony server first data  
packets carrying an identifier for the established  
communication link and communication samples from the  
called party via the wide area packet switched network;

forwarding the received communication samples to the  
first central office on an assigned trunk line based on  
the identifier; and

10 supplying the communication samples received on the  
assigned trunk line from the first central office to the  
calling party.

14. The method of claim 13, wherein the  
communication samples include at least one of voice  
samples and data words.

15. The method of claim 13, further comprising:  
receiving at the first telephony server a second  
data packet carrying an identifier for the established  
communication link and signaling information indicating  
a condition of the called party;

generating a signaling message to the first central  
office from the first telephony server based on the  
signaling information; and

in the first central office, initiating a response  
for the calling party based on the signaling message.

16. The method of claim 15, wherein the response  
initiating step comprises disconnecting the calling party  
from the communication link.


17. The method of claim 1, wherein the selectively  
establishing step comprises:

setting the communication link along a predetermined  
communication path within said wide area packet switched  
network; and

changing a data rate of the communication link based  
on traffic on the predetermined communication path.

18. The method of claim 1, wherein the wide area  
packet switched network is Internet, the identifying step  
comprising translating an Internet Protocol (IP) address  
of the second telephony server from the area code.

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~~establish communication  
station served by t~~

21. The method of claim 20, wherein the selectively establishing step comprises establishing the link on a predetermined communication path in the wide area packet switched network.

22. The method of claim 21, wherein the selectively establishing step comprises changing a data rate of the communication link based on traffic on the predetermined communication path.

23. A method of telecommunication over the Internet  
comprising:

establishing a dedicated virtual path having a prescribed bandwidth between at least first and second telephony servers having respective network addresses specifying points of presence on the Internet, the first and second telephony servers connected to first and second telephone systems, respectively;

storing in a routing and administration database the prescribed bandwidth and, for each of said telephony servers, the network address and area codes served within the corresponding telephone system;

receiving at the first telephony server a call request initiated by a calling party within the first

[illegible]

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15 telephone network, the call request including a calling  
party number corresponding to the calling party and a  
called party number, the called party number including an  
area code;

20 sending a routing request by the first telephony  
server to routing and administration database including  
the calling party number and the area code of the called  
party number;

25 outputting from the routing and administration  
database a bandwidth allocation and the network address  
of the second telephony server in response to the area  
code supplied by the routing request, the routing and  
administration database providing said bandwidth  
allocation from the prescribed bandwidth;

30 sending signaling data packets by the first  
telephony server to the second telephony server along the  
dedicated virtual path, the signaling data packets  
including the called party number and the bandwidth  
allocation; and

35 establishing a communication link between the first  
telephony server and the second telephony server  
according to the bandwidth allocation to establish  
communication between the calling party and a destination  
corresponding to the called party number.

24. The method of claim 23, wherein the  
establishing step comprises:

reserving at least the prescribed bandwidth in a plurality of interconnected routers connected to the Internet;

in each of the routers, identifying a connection link having the reserved bandwidth with adjacent routers, the connection links of the respective routers establishing the dedicated virtual path having at least the prescribed bandwidth.

25. A telecommunications system comprising:

a first switched telecommunications network including:

(1) first switching systems serving first customer premises terminals connected to said first switching systems,

(2) first trunks connecting the first switching systems,

(3) a first system for controlling call set up to selectively establish communication connections between said customer premise terminals over said first trunks, and

(4) a first server providing an interface between communication connections over said first trunks and predetermined virtual paths, each having a prescribed bandwidth and transporting data packets carrying communication data;

20 (1) second switching systems serving second customer premises terminals connected to said second switching systems,

25           (3) a second system for controlling call set up to  
selectively establish communication connections between  
said second customer premises terminals over said second  
trunks, and

30        communication connections over said second trunks and  
       said predetermined virtual paths;

35        said predetermined virtual paths to establish a  
communication connection between one of said first  
customer premise terminals over said first trunks and one  
of said second customer premise terminals over said  
second trunks; and

40           a routing and administration database storing the  
prescribed bandwidth of each corresponding virtual path  
relative to a total reserved bandwidth, and for each said  
server: (1) a network address identifying the  
corresponding point of presence on the wide area

5 along the predetermined virtual paths.

27. The system of claim 25, wherein the numbering codes are area codes.

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